MESSRS VICKERS ARMSTRONGS

No 637

T.S.S. ORONTES

PROFILE

Barrow F. E. Rpt No 2331

003620-003624-0059

TWIN SCREW PASSENGER AND CARGO STEAMER.
Nº637.

DIMENSIONS 630'-0" B.P. 75'-0" BEAM MLD 37'-6" DEPTH MLD

PROFILE INCLUDING PANTING ARRGTS AND STRENGTHENING OF BOTTOM FORWD, CRUISER STERN. AND FRAMING IN WAY OF OPEN SIDES AFT BETWEEN E & F DKS.

SCALE 1/8" = 1FT.

CLASS 100.A WITH FREEBOARD.

NOTE:-
SEE SEPARATE SUBMISSION FOR HATCHES. PILLARS & GIRDERS, OIL BUNKERS. WING TANK IN E.ROOM. SUPERSTRUCTURE.

NOTE:- ALL SECTIONS ARE NEW BRITISH STANDARD.

NAVAL CONSTRUCTION WORKS
SHIPYARD DEPT.
VICKERS - ARMSTRONGS LTD.
31 MAR. 1928
BARROW-IN-FURNESS

BEAMS.
COACH ROOF - 5 × 2½ × .36 B.A
A DECK 5 × 2½ × .36 B.A
B 6 × 3 × .36 B.A
C 8 × 3½ × 3½ × .36 × .52 CH & 5 × 2½ × .36 B.A AFT
D 7 × 3½ × .42 B.A AFT
PLATFORM DECK AT C.L. 9 × 3½ × .54 B.A AT SIDES
ORLOP DECK 10 × 3½ × 3½ × .60
FORECASTLE DECK 8 × 3½ × 3½ × .40 × .52 TO .2, 9 × 3½ × .44 B.A FORWD
SECTION AT FRAME F.
SECTION ABOUT 24 FRAME.
LONGITUDINAL ELEVATION IN WAY OF SHIPS SIDE OPENINGS ON F DECK
SECTION AT "AA"
SECTION AT "B.B"
PART PLAN AT F.DECK.
FILLED IN WITH CEMENT
STANDING FLANGE CUT DOWN TO 3 IN WAY OF CONTINUOUS BAR
SECTION ABOUT 55 FRAME.
SECTION ABOUT 87 FRAME.
SECTION ABOUT 105 FRAME.
OIL SIDE BUNKERS FRS. 89-128
BOILER ROOM.
SECTION ABOUT 155 FRAME.
ORLOP DECK
UPPER STRINGER
FR 198
FR 205
FR 211.
A.DECK
B.DECK
C.DECK
D.DECK
E.DECK
F.DECK
G.DECK
H.DECK
HOSPITAL
LAUNDRY
LAVATORIES.
Freeboard Deck
3RD CLASS LOUNGE
3RD CLASS PROMENADE
3RD CLASS SMOKE ROOM.
STORE
STEERING GEAR
PASSENGERS
PORTABLE ACCOMMODATION
CARGO HOLD Nº6.
TUNNEL FLAT.
CARGO HOLD Nº5.
AFT PEAK TANK
SEE SEPARATE PLAN FOR BOSSED FRAMES ETC.
SHAFT RECESS.
W.T. B'HEAD ON C.LINE
3RD CLASS SALOON
CARGO HOLD Nº4.
CARGO IN CENTRE & AT SIDES OF TUNNELS
WATER BALLAST
FRESH WATER OR RESERVE FEED WATER.
PASSENGERS
GALLEYS & PANTRIES
1ST CLASS DINING SALOON
WELL OVER 1ST CLASS DINING SALOON
FOYER
STEWARDS
ENGINE ROOM.
BOILER ROOM.
RESERVE FEED WATER.
OIL BUNKER
SEE SEPARATE SUBMISSION.
OIL FUEL
WATER BALLAST P&S WING TANKS FRESH WATER IN CENTRE.
ACCOMMODATION (PORTABLE PORT SIDE)
BULK STORES
INSULATED SHIPS STORES.
REFRIG MACHINERY IN CENTRE OIL FUEL AT SIDES.
WATER BALLAST P&S WING TANKS. FRESH WATER P&S CENTRE TANKS.
REFRIG CARGO. NO HANGING CARGO.
REFRIG CARGO Nº3. HOLD. NO HANGING CARGO.
FRESH WATER
MAILS.
REFRIG CARGO Nº2. HOLD. NO HANGING CARGO.
DECK HOUSE
STEWARDS & CREW.
CREW. E TO D DKS.
STEWARDS. OR CARGO
CARGO.
REFRIG CARGO HOLD Nº1. NO HANGING CARGO.
ORLOP DECK
UPPER STRINGER FR 192 TO STEM.
MIDDLE STRINGER FR 190 TO 218
LOWER STRINGER FR 194 TO 212
STORE
FORE PEAK TANK.
FLOORS .50
FRAMES IN D. BOTTOM 4 × 4 × .54
REV 4 × 4 × .54
DUCT KEEL
V.C. KEEL
FRAMES IN D BOTTOM FORWD OF 3/5 L. 6 × 6 × .54 SINGLE. SEE SECTIONS AT FRS. 198, 205, 211.
PART PLAN AT E.DK.
24" SPACING.
36" SPACING
4 × 3 × .40 REV FRAMES BETWEEN TUNNEL FLAT & H DECK ON ALTERNATE FRS. FROM FRS 10 TO 36 (SEE SECTION ABOVE)
3/5 LENGTH.
1/2 LENGTH.
SKETCH OF FRAMING AT G.DK IN WAY OF F.W.TANK FRS 71-88 & O.FUEL TANKS FRS 90-128
FRAMES CHANGE
SKETCH OF COLLARS FRS 130-146 PLATFORM DK
36" SPACING.
27" SPACING.
SKETCH SHOWING EXTENT OF ADDITIONAL GIRDERS FORWARD OF 3/5 L.
MIDDLE STRINGER.
H.DECK.
CHAIN LOCKER
SECTION OF STRINGERS IN CHAIN LOCKER.
SECTION OF STRINGERS AFT OF BHD. 212.
2'-0" SPACING

PLAN Nº 82

003620-003624-0059

MESSRS VICKERS

No. 627 & 637

"C", "D" & "E" DECKS

SUNK

No 627 - T.S.S. "ORFORD" - Barrow
F. E. Report No 2271

No 637 - T.S.S. ORONTES - Barrow
F. E. Report No 2331

War Loss

003620-003624-0063

25.3.26

No. 627, AND No 637

DIMENSIONS. 630 FT. B.P. × 75 FT. × 47 FT. MLD. TO E DK.

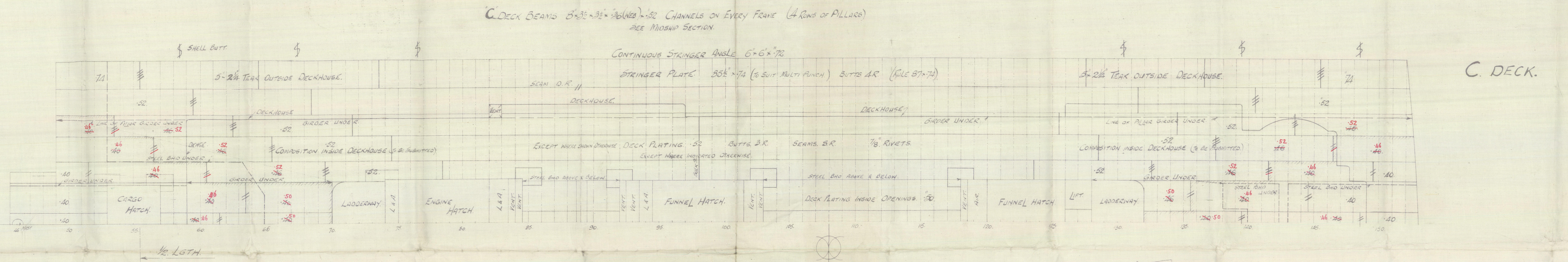
CLASS 100 A WITH FREEBOARD.

DECK PLANS. SHEET 1.

SCALE 1/8" = ONE FOOT.

NOTE:-
DOUBLINGS FITTED AT CORNERS OF OPENINGS ON DECKS amidships C. D. E. F. ~~& G~~ & ends see Section 13 para 5 (b).
PLATING OF ALL DECKS ARRANGED FOR MULTIPLE PUNCHING.
HATCH END BEAM SAME SIZE AS ORDINARY BEAMS IN THE VICINITY
SEE SEPARATE SUBMISSION FOR PILLARS & GIRDERS.

NAVAL CONSTRUCTION WORKS
SHIPYARD DEPT.
VICKERS LIMITED,
18 MAR 1926
BARROW-IN-FURNESS.


"C" DECK BEAMS 8"×3½"×3½"×.36(WEB)×.52 CHANNELS ON EVERY FRAME (4 ROWS OF PILLARS)
SEE MIDSHIP SECTION.
CONTINUOUS STRINGER ANGLE 6"×6"×.72
STRINGER PLATE 55½"×.74 (TO SUIT MULTI PUNCH) BUTTS 4R (RULE 87×.74)
5"×2¼" TEAK OUTSIDE DECKHOUSE.
C. DECK.
DECKHOUSE
GIRDER UNDER
LINE OF PILLAR GIRDER UNDER
EXCEPT WHERE SHOWN OTHERWISE DECK PLATING .52 BUTTS 3R. SEAMS SR. 7/8" RIVETS.
EXCEPT WHERE INDICATED OTHERWISE.
COMPOSITION INSIDE DECKHOUSE (TO BE SUBMITTED)
STEEL BHD ABOVE & BELOW
CARGO HATCH
ENGINE HATCH
FUNNEL HATCH
LAUNDRY
1/4 LGTH

THESE PLATES INCREASED IN THICKNESS OWING TO REDUCTION IN WIDTH OF STRINGER PLATE.
"D" DECK BEAMS IN WAY OF OPEN SIDES. 7"×3½"×.42 B.A. 4 ROWS OF PILLARS.
END OF "D" DECK
END OF "C" DECK
CURTAIN PLATE.
OPEN SIDE. CONT.
STR ANG. 7"×7"×.74
FRAMES CUT
CONTINUOUS STRINGER ANG. 3½"×3½"×.40
"D" DECK
"D" DECK BEAMS 8"×3½"×3½"×.36(WEB)×.52 CHANNELS ON EVERY FRAME FOR'D OF 43.
4 ROWS OF PILLARS SEE MIDSHIP SECTION.
FRAME
CEMENT
4×4×.54 SHELL CHOCK
3½×2½×.50 STR. BAR
SHELL BUTT.
STRINGER PLATE 57"×.54 BUTTS 3 ROWS SEAMS 1.R. EXCEPT WHERE SHOWN OTHERWISE
LINE OF PILLAR GIRDER UNDER
DECK PLATING .50 BUTTS 3 ROWS SEAMS 1.R. EXCEPT WHERE SHOWN OTHERWISE
TEAKOID COMPOSITION INSIDE BRIDGE
END OF BRIDGE SIDE PLATING
1/4 LGTH
1/2 LGTH
BEAMS SPACED 36" APART
"D" DECK.

END OF "D" DECK
END OF "C" DECK
THESE PLATES INCREASED IN THICKNESS OWING TO REDUCTION IN WIDTH OF STRINGER PLATE
"E" DECK BEAMS 8"×3½"×3½"×.36(WEB)×.52 CHANNELS
4 ROWS OF PILLARS SEE MIDSHIP SECTION.
SHELL BUTT.
STRONG BEAM UNDER
S.B. UNDER
STRINGER PLATING 57"×.47 BUTTS 3R. SEAMS 1R. EXCEPT WHERE SHOWN OTHERWISE.
LINE OF PILLAR GIRDER UNDER
DECK PLATING .43 BUTTS 2R SEAMS 1R. EXCEPT WHERE SHOWN OTHERWISE
TEAKOID COMPOSITION IN BRIDGE (GENERALLY)
5"×2½" TEAK OUTSIDE OF BRIDGE
PILLAR GIRDER UNDER
"E" DECK.
E DECK
3/4 LGTH
1/2 LGTH
27" FRAME SPACING
24" FRAME SPACING
F.P.

25.3.26

003620-003624-0063

MESSRS VICKERS

War Loss

SUNK.

No. 627 - "ORFORD"
+ No 637 - ORONTES

"F", G + H DECKS

Barrow J. E. Report No 2271

No 637 - T.S.S. "ORONTES"
Barrow J. E. Report No 2331

003620-003627-0062

25.3.26

Nº 627 + 637

DIMENSIONS 630 FT B.P. × 75 FT × 47 FT TO E DECK.

CLASS 100.A. WITH FREEBOARD.

DECK PLANS. SHEET Nº 2.

SCALE 1/8" = 1 FOOT.

NAVAL CONSTRUCTION WORKS
SHIPYARD DEPT.
VICKERS LIMITED,
18 MAR 1926
BARROW-IN-FURNESS.

NOTE:-

DOUBLINGS FITTED AT CORNERS OF OPENINGS ON DECKS C, D, E, F & G — amidships — at ends. See Section 13 par 5 (b).

PLATING OF ALL DECKS ARRANGED FOR MULTIPLE PUNCHING.

HATCH END BEAMS SAME SIZE AS ORDINARY BEAMS IN THE VICINITY.

SEE SEPARATE SUBMISSION FOR PILLARS & GIRDERS.

F. DECK.
F. DECK BEAMS 8" × 3½" × 3½" × ·36" CHANNELS ON EVERY FRAME
SPAN NOT EXCEEDING 16 FEET. 4 ROWS OF PILLARS.
STRINGER 57" × ·43" BUTTS. T.R. SEAMS. S.R.
STORES HOIST.
GIRDER UNDER.
BULKHEAD UNDER
END OF C DECK PLATING
END OF D DECK PLATING
SHELL CHOCKS 4" × 4" × ·52 TO ·38 AT ENDS
STRINGER ANGLE 3½ × 2½ × ·43 IN WAY OF C DECK
" " " " 47 " " D
" " " " ·50 TO ·40 " " E
DECK COVERING GENERALLY 1½ TEAKOID
SHELL CHOCKS 4" × 4" × ·52" TO ·38" AT ENDS.
STRINGER ANGLES 3½" × 2½" × ·43" IN WAY OF C & D DECKS
" " " × ·47" TO ·40" IN WAY OF E DECK
LAVATORIES ETC.
3RD CLASS PROMENADE
3RD CLASS DINING SALOON
GALLEYS.
1ST CLASS DINING SALOON
1ST CLASS PASSENGERS
G. DECK.
G. DECK BEAMS 8" × 3½" × 3½" × ·36" CHANNELS ON EVERY FRAME.
SPAN NOT EXCEEDING 16. FEET. 4 ROWS OF PILLARS.
FRAMES 71 TO 128 CUT AND BRACKETED AT G. DECK. FOR DETAIL SEE PROFILE.
STRINGER 57" × ·43 BUTTS T.R. SEAMS S.R.
STRINGER IN WAY OF OIL FUEL 57" × ·44
PLATING IN WAY OF OIL FUEL ·44 BUTTS AND SEAMS D.R.
STEEL BULKHEAD UNDER
STEEL BHD UNDER
STORES
FUNNEL HATCH
STORES
3RD CLASS PASSENGERS (PERMANENT)
CREW
3RD CLASS PASSENGERS OR CARGO
MAIL ROOM
CREW OR CARGO
H. DECK.
H. DECK BEAMS 8" × 3½" × ·36" CHANNELS ON EVERY FRAME
SPAN NOT EXCEEDING 16 FEET 4. ROWS OF PILLARS.
STRINGER PLATE 57" × ·42 FOR ½ LEN. TO 44½ × ·40 AT ENDS
CONTINUOUS STRINGER ANGLE 3½ × 2½ × ·42 FOR ½ LEN ·40 AT ENDS
SHELL CHOCKS 4" × 4" × ·52" FOR ½ LEN TO ·38 AT ENDS.
THIS PLATE INCREASED IN THICKNESS OWING TO REDUCTION IN WIDTH OF STRINGER
STRINGER BUTTS. D.R.
PILLAR GIRDER UNDER
BALLAST TANK
OIL FUEL
CARGO HOLD
ENGINE ROOM
BOILER ROOM
3RD CLASS PASSENGERS OR CARGO
STRINGER PLATE 57" × ·42" FOR ½ LEN. TO 44½ × ·40 AT ENDS
SHELL CHOCKS 4" × 4" × ·52 " " " 4" × 4" × ·38 " "
CONTINUOUS STRINGER ANGLE 3½ × 2½ × ·42 FOR ½ LEN TO ·40 AT ENDS
THESE PLATES INCREASED IN THICKNESS OWING TO REDUCTION OF WIDTH OF STRINGER
STRINGER BUTTS. D.R. ·42
H. DECK BEAMS 8" × 3½" × 3½" × ·36 CHANNELS ON EVERY FRAME
4 ROWS OF PILLARS SPAN NOT EXCEEDING 16 FEET
INSULATED CARGO TWEEN DECKS
CARGO TWEEN DECKS

Vickers Armstrongs Ld T. S. S. No 637

"Orontes"

Midship Section (as built)

003620-003624-0058

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Lloyd's Register
Foundation

Lloyds

T. S. S. "ORONTES".

MIDSHIP SECTION.

SCALE ½ INCH = ONE FOOT.

TO CLASS 100 A WITH FREEBOARD.

LLOYDS NUMERALS

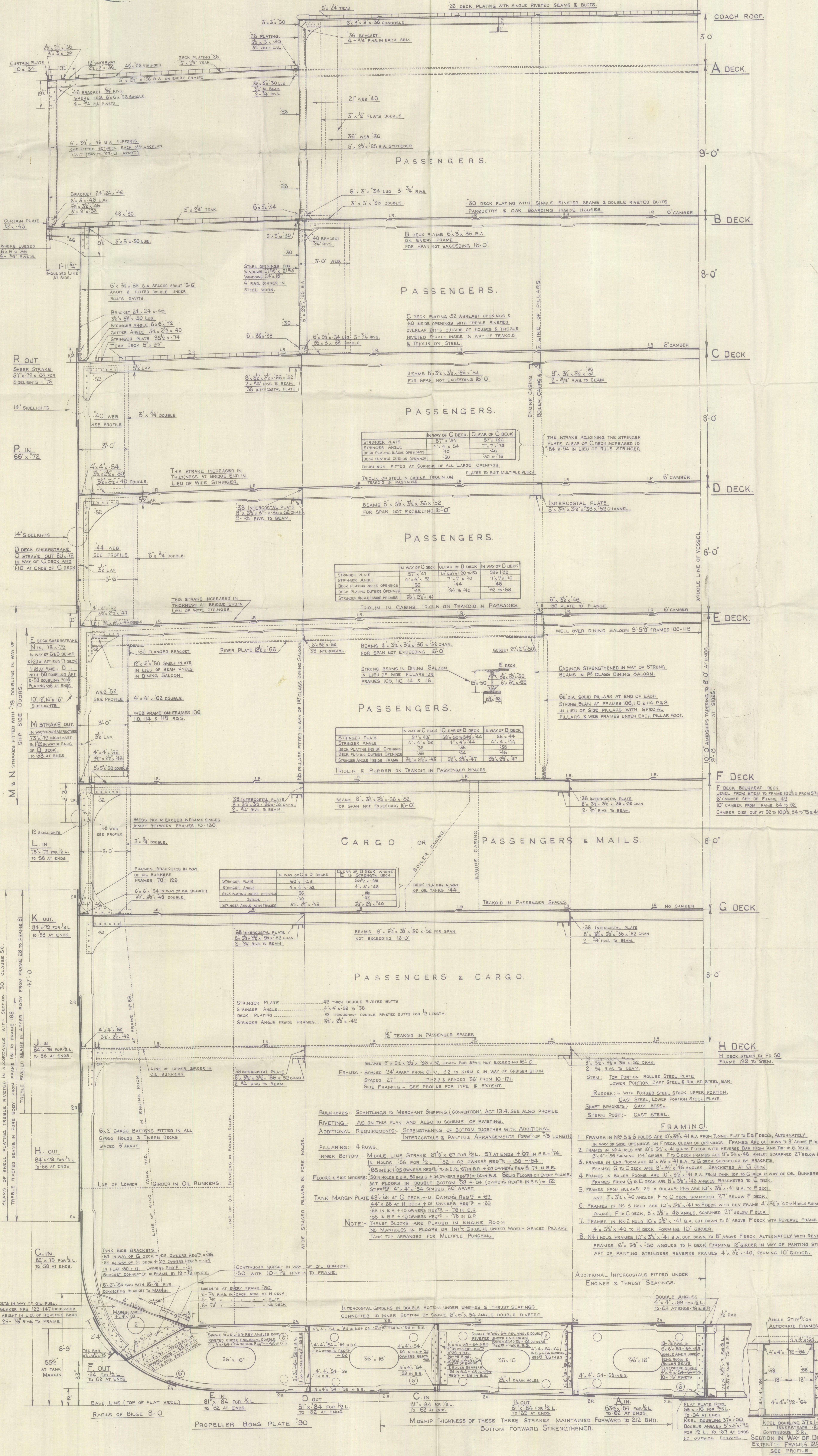
LENGTH B.P.	L = 630'-0"
BREADTH MLD.	B = 75'-0"
DEPTH MLD. TO F DECK	= 37'-6"
DEPTH FOR SCANTLINGS	D = 45·29.
L x D	= 28533
L (B + D.)	= 75783
L ÷ D TO C DECK (63'-0")	= 10·00
D " (55'-0")	= 11·45
E " (47-0)	= 13·40
d TO G DECK	= 24'·87
d TO H DECK	= 16'·87
d TO TUNNEL FLAT	= 7'·87

ALL DECKS, INNER BOTTOM & A, B C D & E STRAKES.
OF OTHER BOTTOM ARRANGED FOR MULTIPLE PUNCHING
HYDRAULIC RIVETING IN FLAT. PLATE KEEL & VERTICAL CR/ KEELSON.
SHEER STRAKES HAND RIVETED.

NAVAL CONSTRUCTION WORKS
SHIPYARD DEPT.
VICKERS-ARMSTRONGS LTD.
10 JUL 1929
BARROW-IN-FURNESS

EQUIPMENT Nº 82995.

2 BOWER ANCHORS STOCKLESS 137 CWTS EACH
1 BOWER ANCHOR " 116 CWTS.
1 STREAM " " 53¼ "
CABLE 330 FMS. 3¼" STUD LINK CHAIN.
STREAM ANCHOR WIRE 150 FMS. 7" F.S.W.R.
TOW LINE 140 FMS. 7½" F.S.W.R
HAWSERS & WARPS 6 AT 120 FMS. 4" F.S.W.R.



COACH ROOF
A DECK
B DECK
C DECK
D DECK.
E DECK.
F DECK
G DECK
H DECK
3'-0"
9'-0"
8'-0"
PASSENGERS.
CARGO OR PASSENGERS & MAILS.
PASSENGERS & CARGO.
·26 DECK PLATING WITH SINGLE RIVETED SEAMS & BUTTS.
5" x 2¼" TEAK
6" x 3" x 3" x ·36 CHANNELS.
·36 BRACKET 4 - ¾" RIVS. IN EACH ARM.
·30 DECK PLATING WITH SINGLE RIVETED SEAMS & DOUBLE RIVETED BUTTS
PARQUETRY & OAK BOARDING INSIDE HOUSES.
6" CAMBER
B DECK BEAMS 6" x 3" x ·36 B.A. ON EVERY FRAME FOR SPAN NOT EXCEEDING 16'-0".
C DECK PLATING ·52 ABREAST OPENINGS & ·50 INSIDE OPENINGS WITH TREBLE RIVETED OVERLAP BUTTS OUTSIDE OF HOUSES & TREBLE RIVETED STRAPS INSIDE IN WAY OF TEAKOID.
BEAMS 8" x 3½" x 3½" x ·36 x ·52 FOR SPAN NOT EXCEEDING 16'-0"
TRIOLIN ON STEEL IN CABINS, TRIOLIN ON TEAKOID IN PASSAGES.
INTERCOSTAL PLATE. 8" x 3½" x 3½" x ·36 x ·52 CHANNEL.
TRIOLIN IN CABINS, TRIOLIN ON TEAKOID IN PASSAGES
6" x 3½" x ·46 ·50 PLATE, 6" FLANGE.
WELL OVER DINING SALOON 9'-5⅞" FRAMES 106-118
6" x 3½" x ·62 ·38 INTERCOSTAL.
BEAMS 8" x 3½" x 3½" x ·36 x ·52 CHAN. FOR SPAN NOT EXCEEDING 16'-0"
GUSSET 27" x 27" x ·50
STRONG BEAMS IN DINING SALOON IN LIEU OF SIDE PILLARS ON FRAMES 106, 110, 114 & 118.
E DECK
3½" x 3½" x ·50
6" x 3½" x ·62
15" x ·50
12½" x ·62
CASINGS STRENGTHENED IN WAY OF STRONG BEAMS IN 1ST CLASS DINING SALOON.
6½" DIA. SOLID PILLARS AT END OF EACH STRONG BEAM AT FRAMES 106, 110 & 114 P.&S. IN LIEU OF SIDE PILLARS WITH SPECIAL PILLARS & WEB FRAMES UNDER EACH PILLAR FOOT.
NO PILLARS FITTED IN WAY OF 1ST CLASS DINING SALOON
TRIOLIN & RUBBER ON TEAKOID IN PASSENGER SPACES.
MIDDLE LINE OF VESSEL.
10'-0" AMIDSHIPS TAPERING TO 8'-0" AT ENDS
9'-6 " AT SIDES.
F DECK BULKHEAD DECK
LEVEL FROM STEM TO FRAME 100½ & FROM 57 TO 75.
6" CAMBER AFT OF FRAME 49
10" CAMBER FROM FRAME 84 TO 92.
CAMBER DIES OUT AT 92 TO 100½, 84 TO 75 & 49 TO 57.
·38 INTERCOSTAL PLATE 8" x 3½" x 3½" x ·36 x ·52 CHAN. 2 - ¾" RIVS. TO BEAM.
ENGINE CASING
BOILER CASING
TEAKOID IN PASSENGER SPACES
NO CAMBER.
H DECK STERN TO FR. 50
FRAME 129 TO STEM.
½" TEAKOID IN PASSENGER SPACES
WIDE SPACED PILLARS IN FORE HOLDS
ADDITIONAL INTERCOSTALS FITTED UNDER ENGINES & THRUST SEATINGS.
INTERCOSTAL GIRDERS IN DOUBLE BOTTOM UNDER ENGINES & THRUST SEATINGS CONNECTED TO INNER BOTTOM BY SINGLE 6" x 6" x ·54 ANGLE DOUBLE RIVETED.
DOUBLE ANGLES 4" x 4" x ·69 FOR ½L. TO ·63 AT ENDS ·79 IN B.R.
1½" RAD.
36" x 16"
2½" x 1" DRAIN HOLES
F. OUT ·84 FOR ½ L. TO ·62 AT ENDS
E. IN 81" x ·84 FOR ½ L. TO ·62 AT ENDS.
D. OUT 81" x ·84 FOR ½ L. TO ·62 AT ENDS.
C. IN 81" x ·84 FOR ½ L. TO ·62 AT ENDS
B. OUT 81" x ·84 FOR ½ L. TO ·62 AT ENDS.
A. IN 63½" x ·84 FOR ½ L. TO ·62 AT ENDS.
FLAT PLATE KEEL 59 x 1·10 FOR ⅗ L. TO ·94 AT ENDS
KEEL DOUBLING 37" x 1·00
DOUBLE ANGLES 5" x 5" x ·75 FOR ½ L. TO ·67 AT ENDS
NO OUTSIDE STRAPS.
BASE LINE (TOP OF FLAT KEEL.)
RADIUS OF BILGE 8'-0"
PROPELLER BOSS PLATE ·90
MIDSHIP THICKNESS OF THESE THREE STRAKES MAINTAINED FORWARD TO 212 BHD.
BOTTOM FORWARD STRENGTHENED.
6'-9"
55½" AT TANK MARGIN
33"
12"
MARGIN ANGLE 4" x 4" x ·69
TEE BAR 6½" x 6½" x ·75
ANGLE STIFFR ON ALTERNATE FRAMES
SECTION IN WAY OF DUCT KEEL. EXTENT:- FRAMES 129-186. SEE PROFILE.
R. OUT SHEER STRAKE 57" x 72" x ·76 FOR SIDELIGHTS
P. IN 66" x ·72
M & N STRAKES FITTED WITH ·79 DOUBLING IN WAY OF SHIP SIDE DOORS.
L. IN 75" x ·79 FOR ½ L. TO ·58 AT ENDS
K. OUT 84" x ·79 FOR ½ L. TO ·58 AT ENDS.
J. IN 84" x ·79 FOR ½ L. TO ·58 AT ENDS
H. OUT 84" x ·79 FOR ½ L. TO ·58 AT ENDS.
G. IN 82" x ·79 FOR ½ L. TO ·58 AT ENDS
SEAMS OF SHELL PLATING TREBLE RIVETED IN ACCORDANCE WITH SECTION 30, CLAUSE 5C.
47'-0"

	IN WAY OF C DECK	CLEAR OF C DECK
STRINGER PLATE	57" x ·54	51" x 1·20
STRINGER ANGLE	4" x 4" x ·52	7" x 7" x ·78
DECK PLATING INSIDE OPENINGS	·40	·46
DECK PLATING OUTSIDE OPENINGS	·50	·50 TO ·76

	IN WAY OF C DECK	CLEAR OF D DECK	IN WAY OF D DECK
STRINGER PLATE	57" x ·47	75" & 57 x 1·20 TO ·50	59" x 1·20
STRINGER ANGLE	4" x 4" x ·52	7" x 7" x 1·10	7" x 7" x 1·10
DECK PLATING INSIDE OPENINGS	·36	·44	·46
DECK PLATING OUTSIDE OPENINGS	·43	·84 TO ·40	·92 TO ·68
STRINGER ANGLE INSIDE FRAMES	3½" x 2½" x ·47		

	IN WAY OF C DECK	CLEAR OF D DECK	IN WAY OF D DECK.
STRINGER PLATE	57" x 43"	58" x ·50 TO 54½" x ·44	55" x ·44
STRINGER ANGLE	4" x 4" x ·52	4" x 4" x ·44	4" x 4" x ·44
DECK PLATING INSIDE OPENINGS	·36	·36	·38
DECK PLATING OUTSIDE OPENINGS	·39	·44	·46
STRINGER ANGLE INSIDE FRAME	3½" x 2½" x ·43	3½" x 2½" x ·47	3½" x 2½" x ·47

	IN WAY OF C & D DECKS	CLEAR OF D DECK WHERE E IS STRENGTH DECK
STRINGER PLATE	60" x ·44	55" x ·46
STRINGER ANGLE	4" x 4" x ·52	4" x 4" x ·46
DECK PLATING INSIDE OPENINGS		·36
" OUTSIDE		·38
STRINGER ANGLE INSIDE FRAMES	3½" x 2½" x ·43	3½" x 2½" x ·40

STRINGER PLATE ·42 THICK DOUBLE RIVETED BUTTS
STRINGER ANGLE 4" x 4" x ·52 TO ·38
DECK PLATING ·32 THROUGHOUT DOUBLE RIVETED BUTTS FOR ½ LENGTH.
STRINGER ANGLE INSIDE FRAMES 3½" x 2½" x ·42.

BEAMS 8" x 3½" x 3½" x ·36 x ·52 CHAN. FOR SPAN NOT EXCEEDING 16'-0".

FRAMES:- SPACED 24" APART FROM 0-10, 212 TO STEM & IN WAY OF CRUISER STERN
SPACED 27" " " 171-212 & SPACED 36" FROM 10-171.
SIDE FRAMING – SEE PROFILE FOR TYPE & EXTENT.

STEM:- TOP PORTION ROLLED STEEL PLATE
LOWER PORTION CAST STEEL & ROLLED STEEL BAR.

RUDDER:– WITH FORGED STEEL STOCK UPPER PORTION,
CAST STEEL, LOWER PORTION STEEL PLATE.

SHAFT BRACKETS:- CAST STEEL.

STERN POST:- CAST STEEL.

BULKHEADS:- SCANTLINGS TO MERCHANT SHIPPING (CONVENTION) ACT. 1914, SEE ALSO PROFILE.

RIVETING:- AS ON THIS PLAN AND ALSO TO SCHEME OF RIVETING.

ADDITIONAL REQUIREMENTS:- STRENGTHENING OF BOTTOM TOGETHER WITH ADDITIONAL INTERCOSTALS & PANTING ARRANGEMENTS FORWD OF ⅗ LENGTH.

PILLARING:- 4 ROWS.

INNER BOTTOM:- MIDDLE LINE STRAKE 67⅛" x ·67 FOR ½ L. ·57 AT ENDS + ·07 IN B.S. = ·74
IN HOLDS ·56 FOR ½ L. – ·52 + ·02 OWNER'S REQTS/ = ·58 – ·54
·65 IN E.R + ·05 OWNER'S REQTS = ·70 IN E.R. ·67 IN B.R. + ·07 OWNER'S REQTS = ·74 IN B.R.

FLOORS & SIDE GIRDERS: ·50 IN HOLDS & E.R. ·56 IN B.S. + ·04 (OWNERS REQTS) = ·60 IN B.S. SOLID FLOORS ON EVERY FRAME.
W.T. FLOORS IN DOUBLE BOTTOM ·58 + ·04 (OWNER'S REQTS IN B.S.) = ·62
STIFFRS 4" x 4" x ·54 SPACED 30" APART.

TANK MARGIN PLATE 48" x ·68 AT G DECK. + ·01 OWNER'S REQTS = ·69
44" x ·68 AT H DECK + ·01 OWNER'S REQTS = ·69
·68 IN E.R + ·10 OWNER'S REQTS/ = ·78 IN E.R.
·68 IN B.R + ·10 OWNER'S REQTS = ·78 IN B.R.

NOTE:- THRUST BLOCKS ARE PLACED IN ENGINE ROOM
NO MANHOLES IN FLOORS OR INTL/ GIRDERS UNDER WIDELY SPACED PILLARS
TANK TOP ARRANGED FOR MULTIPLE PUNCHING.

FRAMING.

1. FRAMES IN NOS 5 & 6 HOLDS ARE 10" x 3½" x ·41 B.A. FROM TUNNEL FLAT TO E & F DECKS, ALTERNATELY. IN WAY OF SIDE OPENINGS ON F DECK CLEAR OF OPENINGS. FRAMES ARE CUT DOWN TO 8" ABOVE F DECK.
2. FRAMES IN Nº 4 HOLD ARE 10" x 3½" x ·41 B.A TO F DECK WITH REVERSE BAR FROM TANK TOP TO G DECK 9" x 4" x ·56 FORMING 14½" GIRDER. F TO C DECK FRAMES ARE 8" x 3½" x ·46. ANGLES SCARPHED 27" BELOW F DECK.
3. FRAMES IN ENG. ROOM ARE 10" x 3½" x ·41 B.A. TO G DECK SUPPORTED BY BRACKETS, FRAMES G TO C DECK ARE 8" x 3½" x ·46 ANGLES. BRACKETED AT G DECK.
4 FRAMES IN BOILER ROOMS ARE 10" x 3½" x ·41 B.A. FROM TANK TOP TO G DECK IN WAY OF OIL BUNKERS, FRAMES FROM G TO C DECK ARE 8" x 3½" x ·46 ANGLES BRACKETED TO G DECK.
5. FRAMES FROM BULKHD/ 129 TO BULKHD/ 145 ARE 10" x 3½" x ·41 B.A. TO F DECK AND 8" x 3½" x ·46 ANGLES, F TO C DECK SCARPHED 27" BELOW F DECK.
6. FRAMES IN Nº 3 HOLD ARE 10" x 3½" x ·41 TO F DECK WITH REV. FRAME 4" x 3½" x ·40 TO H DECK FORMING 10" GIRDER. FRAMES F TO C DECK, 8" x 3½" x ·46 ANGLE, SCARPHED 27" BELOW F DECK.
7. FRAMES IN Nº 2 HOLD 10" x 3½" x ·41 B.A. CUT DOWN TO 8" ABOVE F DECK WITH REVERSE FRAME 4" x 3½" x ·40 TO H DECK FORMING 10" GIRDER.
8. Nº 1 HOLD, FRAMES 10" x 3½" x ·41 B.A. CUT DOWN TO 8" ABOVE F DECK ALTERNATELY WITH REVERSE FRAMES 6" x 3½" x ·50 ANGLES TO H DECK FORMING 12" GIRDER IN WAY OF PANTING STRINGER AFT OF PANTING STRINGERS REVERSE FRAMES 4" x 3½" x ·40, FORMING 10" GIRDER.

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T.S.S. "ORONTES"

Messrs Vicker's No 637

Rudder Plan

Barrow F.E. Rpt No 2331

003620-003624-0060

23/1/28.

T.S.S. "ORONTES". Nº 637.

RUDDER PLAN.

SCALE 1/2 INCH = 1 FOOT - DETAILS AS MARKED

UPPER PORTION OF RUDDER	- CAST STEEL
LOWER " " "	- BUILT PLATES
RUDDER STOCK	- FORGED STEEL
" PINTLE	- " "
APPROXIMATE WEIGHT OF CASTING	- 22 TONS
" " " STOCK	- 8 TONS 17 CWTS
AREA OF RUDDER	- 260 SQ. FT.
MAXIMUM SEA SPEED	- 19 KNOTS

NAVAL CONSTRUCTION WORKS
SHIPYARD DEPT.
VICKERS LIMITED
18 JAN 1928
BARROW-IN-FURNESS.

TESTS

ALL FORGINGS AND CASTINGS TO PASS LLOYDS AND BRITISH BOARD OF TRADE TESTS

THE TEST PIECES FOR LLOYDS TESTS ARE TO BE ARRANGED BETWEEN CONTRACTORS AND THEIR LLOYDS SURVEYORS

THE TEST PIECES FOR THE BRITISH BOARD OF TRADE TESTS ARE TO BE AS FOLLOWS :-

4 TEST PIECES TO BE CAST ON RUDDER CASTING, AS FAR APART AS POSSIBLE

2 TEST PIECES ON RUDDER STOCK, ONE AT EACH END. POSITION OF THE TEST PIECE AT THE COUPLING END TO BE ARRANGED BY CONTRACTORS IN THE MOST SUITABLE POSITION TO ALLOW FOR THEIR MACHINING AND COMPLETING OF COUPLING

1 TEST PIECE ON RUDDER PINTLE IN POSITION AS SHOWN ON PLAN

THESE TEST PIECES MUST **NOT** BE CUT OFF BUT LEFT ON CASTING AND FORGINGS, AND WILL BE CUT OFF BY SHIPBUILDERS IN THE PRESENCE OF BOARD OF TRADE SURVEYORS WHEN ITEMS ARE DELIVERED

THE SECTIONAL AREAS OF TEST PIECES ARE TO BE SUCH AS TO PROVIDE FOR A NUMBER OF SEPARATE TESTS, BUT IN ANY CASE MUST BE LARGE ENOUGH TO PREVENT TEST PIECES BEING BROKEN OFF DURING TRANSIT

NOTES

PATTERN WILL BE SUPPLIED BY CONTRACTORS - ALL THE NECESSARY INFORMATION BEING SUPPLIED BY SHIPBUILDERS

PATTERN WILL BE CHECKED AND ALL RIVET HOLES MARKED ON PATTERN BY SHIPBUILDERS REPRESENTATIVE

RIVET HOLES TO BE DRILLED BY CONTRACTORS - 5/64" LARGER IN DIAMETER THAN RIVETS

CONTRACTOR TO MACHINE RUDDER STOCK TO DIMENSIONS GIVEN ON THIS PLAN AND TO SUPPLY POINT GAUGE FOR DIAMETER OF STOCK IN WAY OF CROSSHEAD TOGETHER WITH GAUGE FOR SIZE AND POSITION OF KEYWAYS

CONTRACTOR TO SUPPLY STEEL WEDGE, SLIGHTLY LARGE FOR FITTING PURPOSES AND KEYS, SIMILARLY LARGE

WHERE TINTED, SURFACES TO BE MACHINED BY CONTRACTOR

SHIPBUILDERS WILL SUPPLY AND FIT LIGNUM VITAE STRIPS AND DRILL AND TAP HOLES FOR LIFTING EYES

BROWN BROS. TO SUPPLY CROSSHEAD FINISHED MACHINED AND CUT KEYWAYS, ALSO TO BORE CROSSHEAD TO GAUGES MADE BY RUDDER CONTRACTORS AND SUPPLIED THROUGH SHIPBUILDERS. CROSSHEAD TO BE BORED SIZE TO SIZE WITH STOCK - NO ALLOWANCE, AND TO BE HEATED SLIGHTLY AND DRIVEN ON STOCK. CROSSHEAD 4 KEYS FITTED BY SHIPBUILDERS

LOWER PORTION OF RUDDER WILL BE SUPPLIED AND FITTED BY SHIPBUILDERS

INTERIOR OF LOWER PORTION OF RUDDER TO BE WELL COATED WITH BITUMEN THE BOTTOM BEING FILLED SOLID, AS SHOWN.

TAPERED LINERS TO BE FITTED IN LOWER PORTION WHERE THERE IS INSUFFICIENT ROOM TO PASS RIVETS AND ALL THROUGH RIVETED

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CONTOURS
SCALE 1/2 INCH = 1 FOOT
5/8 HALF SIDING
CASTING RECESSED IN WAY OF THIS NUT ONLY, TO HOUSE SAME
CORE PLUGS AS REQUIRED
HOLE 8 x 4
HOLE 6 DIA
2½ FLANGES
4'-5"
4'-3½"
3'-6"
3'-3"
DETAIL OF RUDDER STOCK LIFTING EYE AND POSITION OF KEYS
SCALE 1 INCH = 1 FOOT
HOLE IN STOCK TO SUIT EYE
3¼ DIA OVER THREADS 4 THREADS PER INCH
FORWARD
STOCK - 18 7/8" DIA + 5/8" INCREASE IN DIA FOR OWNERS REQUIREMENT = 19½" DIA.
TEST PIECE
FINISHED MACHINED
POLISHED
ROUGH TURNED
CAST IRON CHOCK
CAST STEEL STEADYING BLOCK
"H" DECK
CAST STEEL BEARING
CAST STEEL SUPPORT
2½" RUFF
OVERALL LENGTH OF STOCK 16'-0"
UPPER PORTION
LINE OF RUDDER AT CENTRE
3½" FLANGE AT SIDES
½" PLATE
SINGLE RIVETED STRAP
THIS SWELLING ON CASTING TO BE WORKED IN A GRADUAL MANNER AND FINISHED SIMILARLY TO GIVE A NEAT APPEARANCE
16'-6" ABOVE BASE
RUDDER STOP
ROPE GUARD
½" COVER PLATES, P&S. - SECURED ON PORT SIDE BY ¾ DIA CSK. HEADED RIVETS. ON STARBOARD SIDE BY ¾ DIA CSK. HEADED TAPS
SPACE FOR WITHDRAWING PINTLE BUSH
RIVETED JOINT - 1⅛ DIA RIVS. - SPACED 5" APART
RIVETS THROUGH LINERS RUN RIGHT THRO' SIDE PLATES
THIS WEB OF FLANGED PLATE
TAPERED LINER
TAPERED LINER WITH THROUGH RIVETS
LOWER PORTION
SIDE PLATES
LINE OF KNUCKLE
EXTENT OF SHOE PIECE
FLANGED SHOE PIECE
BASE LINE
13'-0"
6'-9"
DETAIL OF RUFF
SCALE 1 INCH = 1 FOOT
½" PLATE IN THREE PIECES FLUSH WITH CASTING
½" COVER PLATE
FILLED IN SOLID WITH BITUMEN
SECTION THRO' ℄ OF STOCK
SECTION THRO' "AA"
½" PLATES (SUPPLIED & FITTED BY SHIPBUILDERS)
8 x 4 INSPECTION OPENING
⅞ DIA STUD
REMOVABLE PLATE LARGE ENOUGH TO PERMIT OF PINTLE AND BUSH BEING WITHDRAWN
SECTION THRO' "BB"
SECTION THRO' "CC"
1⅛ DIA RIVS - SPACED 5" APART CSK HEADS & POINTS
WEB
DETAIL OF SHOE PIECE
SCALE 3 INCHES = 1 FOOT
.56" SIDE PLATES
7/8" DIA RIVS. - SPACED 5 DIAS. APART AND REELED - CSK. HEADS AND POINTS
44 FLANGED SHOE PIECE
DETAIL OF PINTLE
SCALE 1½ INCHES = 1 FOOT
TEST PIECE 22" DIAM
PINTLE LIFTING EYE
12 - ⅞ DIA TAPS FOR SECURING BUSH
2 - ¾ DIA TAPPED HOLES FOR STARTING PURPOSES, HOLES TO BE PLUGGED
1¾" CLEARANCE
½" GUNMETAL LINER, SHRUNK AND PINNED ON PINTLE
¾" LIGNUM VITAE (END GRAIN)
5/8 GUNMETAL BUSHING
PINTLE FOR THIS DISTANCE TO BE MACHINED 4/1000" SMALLER THAN DIAMETERS GIVEN (MARKED ✱) THIS IS TO ALLOW FOR "FESCOLISING" OF THIS PORTION OF PINTLE WHICH WILL INCREASE DIAMETER BY 3/1000" PINTLE TO BE A DRIVING FIT IN GUDGEON WHEN "FESCOLISED" FESCOLISING WILL BE ARRANGED FOR BY SHIPBUILDERS AFTER DELIVERY OF RUDDER
1" TAP TO PINTLE OR LOCKING PLATE FITTED AT SIDE OF NUT SUPPLIED BY SHIPBUILDER
HEXAGON NUT - 18" OVER FLATS SCREWED SIMILAR TO PINTLE I.E. 3 THREADS PER INCH
10 - ⅞ DIA. TAPS FOR SECURING BUSH
2 - ¾ DIA. TAPPED HOLES FOR STARTING PURPOSES
OPENING IN RUDDER FILLED IN WITH WOOD.
FLANGES TO BE RECESSED FOR ½ COVER PLATES P&S. FLANGE ON STARBOARD SIDE TO BE 1½" CLEAR AT BOTTOM FOR WITHDRAWAL OF BUSH
CASTING RECESSED FOR ½" COVER PLATE
6 DIA HOLE FOR PASSAGE OF DRILL - TO BE FINALLY FILLED WITH WOOD AND FITTED WITH ½" COVER PLATE, SECURED BY 8 - ¾ DIA TAPS.
DETAIL OF PINTLE LIFTING EYE
SCALE 3 INCHES = 1 FOOT
HOLE IN PINTLE TO SUIT EYE
2 DIA. OVER THREADS 4½ THREADS PER INCH
DETAIL OF RUDDER STOP
SCALE 1 INCH = 1 FOOT
DETAIL OF FLANGE ON G.M. BUSH
SCALE 1 INCH = 1 FOOT
5/8 GUNMETAL BUSH
¾ LIGNUM VITAE (END GRAIN)
½ GUNMETAL LINER
BUSH ¼" CLEAR OF COLLAR
DETAIL OF RETAINING STRIPS ON GUNMETAL BUSH
SCALE 3 INCHES = 1 FOOT
LIGNUM VITAE STRIPS 2½ x 2" - SUPPLIED BY SHIPBUILDERS
16¾ DIA. UPPER BUSH
14¼ DIA LOWER BUSH
DETAILS OF COUPLING
SCALE 1 INCH = 1 FOOT
19½" DIA.
15" RAD
4'-0"
STEEL WEDGE 1/16 TAPER PER FOOT
CASTING RECESSED IN WAY OF THIS NUT ONLY
14 - ¾ DIA. BOLTS FITTED TO PLACE
14 - ¾ DIA BOLTS. FITTED WITH SPLIT PINS
DETAIL OF JOINT RIVETING
SCALE 3 INCHES = 1 FOOT
1⅛ DIA. RIVETS.
7/8 DIA. RIVS.
In Future Ships.
SECTION THRO' JOINT
CASTING
5¾" x 4 x 1-0 ANGLE - CUT DOWN FROM 6 x 6 BAR
1⅛ DIA RIVS - SPACED 5" APART
7/8" DIA RIVS - SPACED 4⅜ APART (5 DIAS) - REELED
.56" SIDE PLATES

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WJ.
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